

REMARKS / ARGUMENTS

Claims 1-30 stand rejected under 35 U.S.C. § 102(b) as being anticipated by the Applicant's background section. Claims 2-10, 12-20, and 22-30 stand rejected under 35 U.S.C. §103(a) based on the Applicant's background section in view of US Patent No. 5,923,663, issued to Bontemps et al. (hereinafter "Bontemps"). The Applicant respectfully traverses these rejections at least for the reasons previously set forth during prosecution and at least based on the following remarks.

Initially, the Applicant notes that a goal of patent examination is to provide a prompt and complete examination of a patent application:

It is essential that patent applicants obtain a prompt yet complete examination of their applications. Under the principles of compact prosecution, each claim should be reviewed for compliance with every statutory requirement for patentability in the initial review of the application, even if one or more claims are found to be deficient with respect to some statutory requirement. Thus, Office personnel should state all reasons and bases for rejecting claims in the first Office action. Deficiencies should be explained clearly, particularly when they serve as a basis for a rejection. Whenever practicable, Office personnel should indicate how rejections may be overcome and how problems may be resolved. A failure to follow this approach can lead to unnecessary delays in the prosecution of the application. Manual of Patent Examining Procedure (MPEP) § 2106(II).

As such, the Applicant assumes, based on the goals of patent examination noted above, that the present Office Action has set forth "all reasons and bases" for rejecting the claims.

REJECTION UNDER 35 U.S.C. § 102

I. The Applicant's background section does not anticipate independent claims 1, 11 and 21

The Applicant now turns to the rejection of independent claims 1, 11 and 21 under 35 U.S.C. 102(b) as being anticipated by Applicant's admitted prior art, in particular the background section of the Applicant's patent application. With regard to the anticipation rejections under 102(b), MPEP §2131 states that "[a] claim is anticipated only if **each and every element** as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." See Manual of Patent Examining Procedure (MPEP) at 2131 (internal citation omitted). Furthermore, "[t]he identical invention must be shown in as complete detail as is contained in the ... claim." See *id.* (internal citation omitted).

A. Rejection of Independent Claim 1 under 35 U.S.C. § 102 (b)

With regard to the rejection of independent claim 1 under 35 U.S.C. §102(b), the Applicant maintains that the Applicant's background section does not disclose or suggest at least the limitation of "determining any one usable media pair from all existing media pairs", as recited by the Applicant in independent claim 1.

The Office Action states that the above claim limitation is anticipated by

paragraph [04], lines 1-6 in the Applicant's background section. The Office Action interprets the above reference as follows:

auto-MDIX reconfigure channels to properly reassign the media pairs to channels, therefore a usable media pair is determined from all existing media pairs. See Office Action at 2.

This interpretation is incorrect. The Applicant cites the Applicant's paragraph [04], lines 1-6, which states:

In a typical 4-pair conductor or wire system, auto-MDIX may be adapted to automatically detect the order of media pairs 1 and 2 and in certain instances, auto-MDIX *may reconfigure only certain channels* so as to properly re-assign the transmit/receive media pairs to these channels. Auto-MDIX may also be adapted to reconfigure channel ordering for *certain channels* in order to mitigate the effects of improper interfacing and/or configuration. [Emphasis added].

The Applicant points out that paragraph [04], lines 1-6 clearly states that only certain channels are assigned to media pairs, see emphasized text above. Furthermore, the Applicant points out that the following excerpts from paragraph [05], immediately following the cited reference, explicitly contradict the interpretation provided by the Examiner in the Office Action:

Notwithstanding, *Auto-MDIX is limited to reconfiguring only media pairs 1 and 2 and media pairs 3 and 4. . . .* Accordingly, a major drawback with auto-MDIX is that *auto-MDIX does not operate on other combinations of wiring configurations*. For example, auto-MDIX **does not** operate on media pairs 1 and 3 or media pairs 2 and 4 and as a result, may be able to reconfigure and/or correct an improper installation involving media pairs 1 and 3 and media pairs 2 and 4. [Emphasis added.]

Thus, paragraph [05] clearly states, including numerical examples, that the auto-MDIX prior-art disclosed **does not** operate on all media pairs. Thus, it cannot

determine media pairs from "all existing media pairs," as claimed in the Office Action. Thus, paragraph [04], lines 1-6 cited by the Examiner does not anticipate the Applicant's claim limitation.

The Office Action refers for additional support to paragraph [12] and FIG. 1, stating that "the first controller and the second controller is independent and all existing media pair for each controller is independent devices." Firstly, paragraph [12] does not provide any support since it simply states:

Further limitations and disadvantages of conventional and traditional approaches will become apparent to one of skill in the art, through comparison of such systems with some aspects of the present invention as set forth in the remainder of the present application with reference to the drawings.

While the first controller and second controller in the auto-MDIX configuration operate independently, as stated in paragraph [11], lines 1-2, there is no support in paragraph [12] for the Office Action statement "each controller is independent devices." See Office Action at 2. On the contrary, paragraph [10] states that "FIG. 1 is a block diagram of a conventional auto-MDIX system which utilizes four (4) media pairs." Thus, it is clear that the controllers 110 and 112 do not form separate devices, but are components of the same device, namely the auto-MDIX system as depicted in FIG. 1.

The Applicant asserts that the Applicant's background section does not state, mention, or imply "determining any one usable media pair from all existing media pairs of a first device." Correspondingly, paragraphs [04], lines 1-6, and

paragraph [12], as well as FIG. 1 do not disclose, and hence anticipate the Applicant's claim limitation.

With regard to the Applicant's second and third claim limitation, the Office Action refers to the same references as given above, in particular paragraph [04], lines 1-6 and FIG. 1, giving the same interpretation. The Applicant's claim limitations read:

selecting **any one channel from all existing channels**, said selected any one channel being different from a general channel assignment corresponding to said determined any one usable media pair; and assigning said selected **any one channel to said any one media pair**. [Emphasis added]

As shown above in detail, the Applicant's background section, and in particular paragraph [04] and FIG. 1, do not support the selection and/or determination of any one channel from all existing channels. Namely, as described above in detail, the Applicant's background section describing auto-MDIX explicitly points out in e.g. paragraph [05] that the prior art is limited in its selection of media pairs.

Hence, the Applicant respectfully submits that the rejection of claim 1 based on 35 U.S.C. §102(b) be withdrawn and claim 1 made allowable, for at least the reasons set forth above. The Applicant reserves the right to argue additional reasons beyond those set forth above to support the allowability of claim 1.

B. Rejection of Independent Claims 11 and 21

Independent claims 11 and 21 are similar in many respects to the method

disclosed in independent claim 1. Therefore, the Applicant submits that independent claims 11 and 21 are also allowable over the references cited in the Office Action at least for the reasons stated above with regard to claim 1. The Applicant also reserves the right to argue additional reasons beyond those set forth above to support the allowability of claims 1, 11 and 21.

II. Rejection of Dependent Claims 2-10, 12-20, 22-30 under 35 U.S.C. §103(a)

Claims 2-10, 12-20 and 22-30 are rejected under 35 U.S.C. §103(a) based on the Applicant's background section, in view of Bontemps et al.

Based on at least the foregoing, the Applicant believes the rejection of independent claims 1, 11 and 21 under 35 U.S.C. § 102(b) as being anticipated by the Applicant's background section has been overcome, and requests that the rejection be withdrawn. Additionally, claims 2-10, 12-20 and 22-30 depend from independent claims 1, 11 and 21, respectively, and are, consequently, also respectfully submitted to be allowable.

Notwithstanding, with regards to claims 2, 12, and 22, the Office Action states that the applicant's admitted prior art fails to specifically point out notifying a second device of said assigned any one channel which corresponds to said any one media pair as claimed. The Applicant respectfully agrees. The Office Action states:

Bontemps et al. teaches notifying a second device(DFF, figure 4) of said assigned any one channel which corresponds to said any one media pair (see figure 4, section DFF(D-type flip-flop),see col. 13-14, lines 60-2, the DFF asserts the Xover sel1 signal at its output, it receives the assignment signal xover sel).

However, Xover_sel1 signal as disclosed by Bontemps cannot “notify a second device of said assigned **any one** channel,” as claimed by the Applicant. This is because, as may be seen from FIG. 4, and also e.g. from FIG. 2, each Xover_selN signal may only denote whether a cross-over between a single RX/TX pair has occurred. For example, Xover_sel1 in FIG. 1 may only indicate whether the RX/TX pair at the contacts 220a/b may have been crossed over. In particular, any Xover_selN signal may only indicate **a single** RX/TX pair, which is why there are multiple Xover_selN signals. Thus, an Xover_sel1 signal, for example, cannot “notify a second device of said **any one** channel which corresponds to said **any one** media pair.” Hence, Bontemps alone, or in combination with the alleged Applicant’s submitted prior art, cannot anticipate the Applicant’s claim limitation. Thus, the Applicant respectfully requests that the rejection of claims 2, 12, and 22 under 35 U.S.C. §103 is withdrawn, and the claims made allowable.

With regard to claims 3, 13, and 23, the Office Action states that the applicant’s admitted prior art fails to specifically point out cross-connecting a corresponding channel and media pair for said second device, said cross-connected channel and media pair being equivalent to said selected any one channel assigned to said any one media pair, as claimed. The Applicant

respectfully agrees. The Office Action states:

Bontemps et al. teaches cross-connecting a corresponding channel and media pair for said second device, said cross-connected channel and media pair being equivalent to said selected any one channel assigned to said any one media pair (see col. 13, lines 9-28, table of crossover configurations).

However, Table 6 in Bontemps, is showing a single cross-over configuration, crossing a single RX/TX pair as described above for claims 2, 12, and 22, or in Bontemps col. 13, line 60 to col. 14. line 2. This is furthermore illustrated in FIG. 4 and FIG. 2, as described in Bontemps and above. Namely, as described in FIG. 6, the Pin cross-over connection shown in the right-most column may only be enabled or disabled, and thus can only switch **one** RX/TX pair, see also FIG. 2. This is furthermore verified in that the caption to Table 6, clearly states that this table refers to a connector 204, which can be clearly seen from e.g. FIG. 2 to be coupled only to a single RX/TX pair. Thus, col. 13 lines 9-28, and Table 6 cannot provide support for "cross-connecting a corresponding channel and media pair for said second device, said cross-connected channel and media pair being equivalent to said selected **any one** channel assigned to said **any one** media pair." Hence, Bontemps alone, or in combination with the alleged Applicant's submitted prior art cannot, anticipate the Applicant's claim limitation. Thus, the Applicant respectfully requests that the rejection of claims 3, 13, and 23 under 35 U.S.C. §103 is withdrawn, and the claims made allowable.

With regard to claims 4, 14, and 24, the Office Action states that the

applicant's admitted prior art fails to specifically point out negotiating said assignment of said selected any one channel to said any one media pair, as claimed. The Applicant respectfully agrees. The Office Action states:

Bontemps et al. teaches negotiating said assignment of said selected any one channel to said any one media pair (see col. 14, lines 46-53, the DFF is in toggle mode, toggling (reads on negotiating) the xover sel I signals)

However, the D-type flip flops disclosed in FIG. 4 by Bontemps, col. 14, lines 46-53 may be coupled solely to a single RX/TX pair. Thus, the D-type flip flop cannot be "negotiating said assignment of said selected **any one** channel to said **any one** media pair." Moreover, col. 14, lines 46-53 does not suggest or teach "negotiating said assignment." Hence, Bontemps alone or in combination with the alleged Applicant's submitted prior art cannot anticipate the Applicant's claim limitation. Thus, the Applicant respectfully requests that the rejection of claims 4, 14, and 24 under 35 U.S.C. §103 is withdrawn, and the claims made allowable.

Regarding claims 5, 15, and 25, the Applicant notes that these dependent claims depend on independent base claims 1, 11, and 21, respectively. For at least the reasons stated above, claims 1, 11, and 21 are believed to be allowable. Hence, the Applicant respectfully requests that the rejections of claims 5, 15, and 25 are withdrawn, and the claims be made allowable.

Regarding claims 6, 16, and 26 the Office Action states that the Applicant's admitted prior art fails to specifically point out designating a first combination of

said channel assigned to said *any one media pair* as a communication channel and media pair, designating a second combination of said channel assigned to said *any one media pair* as a control channel and media pair, as claimed.

(Emphasis added). The Applicant respectfully agrees. The Office Action states:

Bontemps et al. teaches designating a first combination of said channel assigned to said *any one media pair* as a communication channel and media pair (see col. 13, 9-29, channel assignments, as shown in table 6, see figure 3 and 4, see col. 12, lines 56-67, the select logic select the first and second contacts , designating a channel assignment); and

designating a second combination of said channel assigned to said *any one media pair* as a control channel (figure 4, DFF) and media pair (portl-n, connected to media pair)(see col. 13, lines 25-29, the QS3390 quick switch is used to implement the select. logic(to complete the straight through and crossover connections), see also col. 13-14, lines 67-5, the DFF within all the ports l-n assure all the muxes of the select logic are in the same phase (which reads on the DFF is the control channel of the select logic, controlling the straight through and crossover connection).

However, Table 6, col. 13, lines 9-29 in Bontemps, is showing (as described above) a single cross-over configuration, crossing a single RX/TX pair. This is furthermore illustrated in FIG. 4 and FIG. 2, as described in Bontemps and above. Namely, as described in FIG. 6, the Pin cross-over connection shown in the right-most column may only be enabled or disabled, and thus can only switch **one** RX/TX pair, see also FIG. 2. This is furthermore verified in that the caption to Table 6, clearly states that this table refers to a connector 204, which can be clearly seen from e.g. FIG. 2 to be coupled only to a single RX/TX pair. Thus, col. 13 lines 9-28, and Table 6 cannot provide support for:

[A] first combination of said channel assigned to said *any one media pair* as a communication channel and media pair, designating a second combination of said channel assigned to said any one media pair as a control channel and media pair.

Moreover, col. 12, lines 56-67, cited by the Office Action, does not teach “designating a . . . combination.” Instead, it merely states:

The Rx/D2+/-, 55 Tx/DI+/-, Bi/D3+/- and Bi/D4+/- signals of signal pairs **322a-d** of the PHY device 324 are connected to first and second contacts of contact pairs 314a, 314b, 314c and 314d, respectively, of the select logic 320.

Column 12, lines 56-57 of Bontemps, does not state “the select logic select the first and second contacts , designating a channel assignment,” as stated in the Office Action.

With regard to the DFF in FIG. 4, referred to by the Office Action, the D-type flip flops disclosed by Bontemps, col. 14, lines 46-53 may be coupled solely to a single RX/TX pair. Thus, the D-type flip flop cannot “[designate] a second combination of said channel assigned to **said any one** media pair as a control channel, ” as claimed by the Applicant. Correspondingly, Bontemps col. 13, lines 25-29, the QS3390 quick switch cannot implement suitable select logic for any media pair. The Office Action also refers to column 13, line 67 to column 14, line 5. Lines 3-5, in column 14 summarize this passage, and states that “[t]his substantially eliminates the possibility of creating closed loop segments in a homogeneous stack unit or chassis 5 hub.” Clearly, this passage does not

teach or imply any part of the Office statement that column 13, line 67 to column 14, line 5 supports "reads on the DFF is the control channel of the select logic, controlling the straight through and crossover connection."

Hence, Bontemps alone or in combination with the alleged Applicant's submitted prior art cannot anticipate the Applicant's claim limitation. Thus, the Applicant respectfully requests that the rejection of claims 6, 16, and 26 under 35 U.S.C. §103 is withdrawn, and the claims made allowable.

Regarding claims 7, 17, and 27 the Office Action states that the Applicant's admitted prior art fails to specifically point out **securely** transferring communication traffic via said communication channel and media pair as claimed. The Applicant respectfully agrees. (Emphasis added). The Office Action states:

Bontemps et al. teaches securely (reads on working) transferring communication traffic via said communication channel and media pair (see col. 15, lines 20-24, the automatic media detection circuit, establishes a working communication link).

Bontemps, column 15, lines 20-24 states:

It is now appreciated that an automatic media detection circuit according to the present invention automatically detects the connection of a compatible network device through cable media at a port and establishes a working communication link.

The Applicant notes that Bontemps, column 15, lines 20-24 do not teach, suggest, or imply a *secure* communication.

Hence, Bontemps alone or in combination with the alleged Applicant's submitted prior art cannot anticipate the Applicant's claim limitation. Thus, the

Applicant respectfully requests that the rejection of claims 7, 17, and 27 under 35 U.S.C. §103 is withdrawn, and the claims made allowable.

Regarding claims 8, 18, and 28 the Office Action states that the Applicant's admitted prior art fails to specifically point out **securely** transferring control information via at least one of said communication channel and media pair as claimed. The Applicant respectfully agrees. (Emphasis added). The Office Action states:

Bontemps et al. teaches securely transferring control information via at least one of said communication channel and media pair (see col . 13, lines 29-45, control information is XOVER SELx and LINK DETECTx signals).

The Applicant notes that Bontemps, column 13, lines 29-45 does not suggest, teach, or imply "securely transferring."

Hence, Bontemps alone or in combination with the alleged Applicant's submitted prior art cannot anticipate the Applicant's claim limitation. Thus, the Applicant respectfully requests that the rejection of claims 8, 18, and 28 under 35 U.S.C. §103 is withdrawn, and the claims made allowable.

With regard, to claims 9, 19, and 29, the Office Action relies on the independent claims 1, 11, and 21, and the dependent claims 8, 18, and 28, respectively. In addition, the Office Action states: "determining said selected any one channel assigned to said any one media pair(see [04], lines 1-6, auto-MDIX reconfigure channels to properly reassign the media pairs to channels)."

However, paragraph [05], elaborating on paragraph [04] (see also claims 1, 11, and 21 above), clearly states, including numerical examples, that the auto-MDIX prior-art disclosed **does not** operate on all media pairs. Thus, the cited passage cannot anticipate "determining said selected *any one* channel assigned to said *any one* media pair," as claimed in the Office Action. Thus, paragraph [04], lines 1-6 cited by the Examiner does not anticipate the Applicant's claim limitation.

Hence, Bontemps alone or in combination with the alleged Applicant's submitted prior art cannot anticipate the Applicant's claim limitation. Thus, the Applicant respectfully requests that the rejection of claims 9, 19, and 29 under 35 U.S.C. §103 is withdrawn, and the claims made allowable.

Regarding claims 10, 20, and 30 the Office Action states that the Applicant's admitted prior art fails to specifically point out said control information is at least one of authentication information, encryption information, channel setup information and link provisioning and link maintenance information, as claimed. The Applicant respectfully agrees. (Emphasis added). The Office Action states:

Bontemps et al. teaches said control information is at least one of authentication information, encryption information, channel setup information and link provisioning and link maintenance information (see col .[13, lines] 29-36, the control information LINK DETECTx and XOVER SELx, provide channel setup and link information).

However, column 13, lines 29-36 state:

Referring now to FIG. 4, a schematic diagram is shown of a discrete embodiment of the mode control circuit 222. A logic state machine 400 is provided for each of the ports PORT1, PORT2, PORTS, ... ,

PORTN, where each state machine 400 receives the CLK and SAMPLE clock signals and a corresponding LINK DETECTx signal, and asserts a corresponding XOVERSELx signal as previously described.

The Applicant points out that the cited reference does not refer to, teach or suggest, for example, "authentication information", and "encryption information," as claimed by the Applicant.

Hence, Bontemps alone or in combination with the alleged Applicant's submitted prior art cannot anticipate the Applicant's claim limitation. Thus, the Applicant respectfully requests that the rejection of claims 10, 20, and 30 under 35 U.S.C. §103 is withdrawn, and the claims made allowable.

Applicant also reserves the right to argue additional reasons beyond those set forth above to support the allowability of claims 1-30.

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CONCLUSION

Based on at least the foregoing, the Applicant believes that all claims 1-30 are in condition for allowance. If the Examiner disagrees, the Applicant respectfully requests a telephone interview, and request that the Examiner telephone the undersigned Attorney at (312) 775-8105.

The Commissioner is hereby authorized to charge any additional fees or credit any overpayment to the deposit account of McAndrews, Held & Malloy, Ltd., Account No. 13-0017.

A Notice of Allowability is courteously solicited.

Respectfully submitted,

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